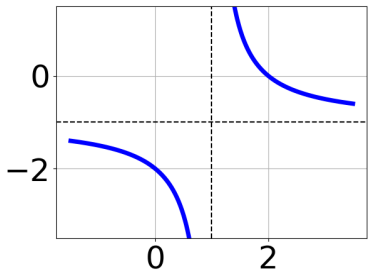
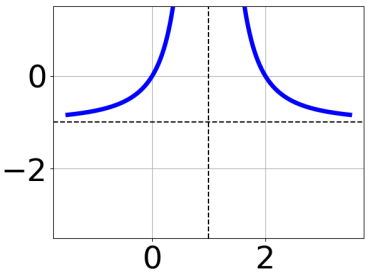
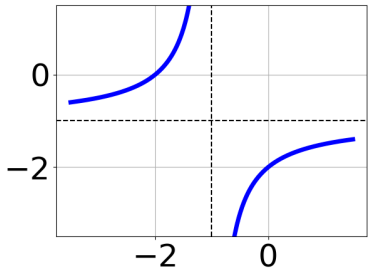
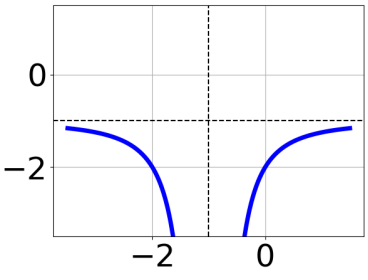
1. Choose the graph of the equation below.

$$f(x) = \frac{-1}{(x+1)^2} - 1$$

A. 

C. 

B. 

D. 

E. None of the above.

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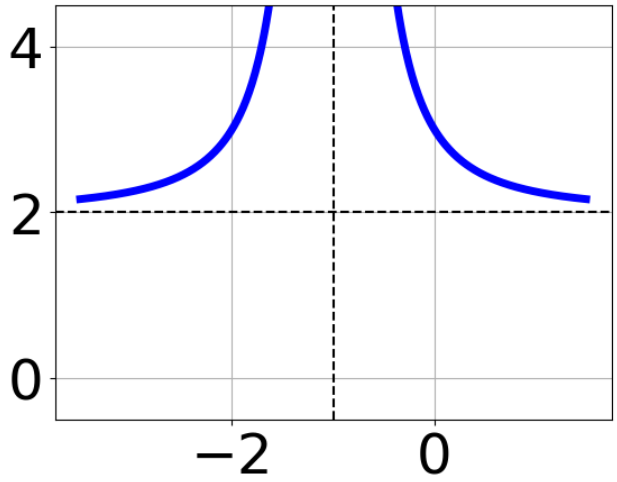
2. Choose the equation of the function graphed below.



A. $f(x) = \dfrac{1}{(x+1)^2} + 2$

B. $f(x) = \dfrac{1}{x+1} + 2$

C. $f(x) = \dfrac{-1}{x-1} + 2$

D. $f(x) = \dfrac{-1}{(x-1)^2} + 2$

E. None of the above

---

3. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{7x}{-3x+2} + \frac{-4x^2}{-15x^2-2x+8} = \frac{3}{5x+4}$$

A. $x_1 \in [-0.23, 0.38]$ and $x_2 \in [-0.4, 2.07]$

B. $x \in [-1.01, -0.56]$

C. $x \in [-1.6, -1.11]$

D. $x_1 \in [-0.23, 0.38]$ and $x_2 \in [-1.8, -1.25]$

E. All solutions lead to invalid or complex values in the equation.

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4. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{-63}{63x-21} + 1 = \frac{-63}{63x-21}$$

A. $x_1 \in [-1.1, 0]$ and $x_2 \in [0.33, 2.33]$

B. $x \in [-1.1, 0]$

C. $x \in [0.33, 2.33]$

D. All solutions lead to invalid or complex values in the equation.

E. $x_1 \in [-0.1, 0.6]$ and $x_2 \in [0.33, 2.33]$

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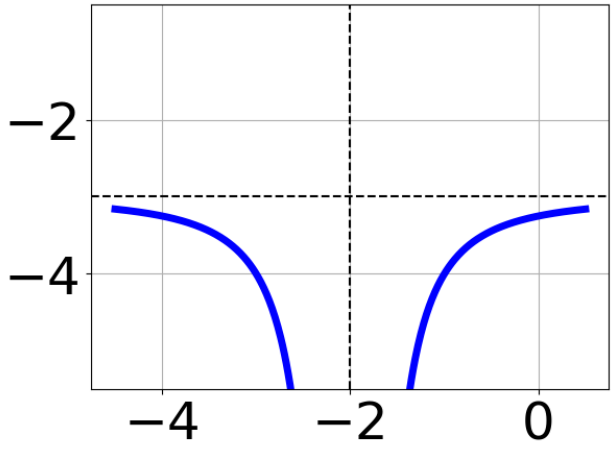
5. Choose the equation of the function graphed below.



A. $f(x) = \dfrac{1}{x+2} - 3$

B. $f(x) = \dfrac{-1}{(x-2)^2} - 3$

C. $f(x) = \dfrac{1}{(x+2)^2} - 3$

D. $f(x) = \dfrac{-1}{x-2} - 3$

E. None of the above

---

6. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{-5}{-6x+2} + 8 = \frac{-6}{-12x+4}$$

A. $x_1 \in [0.03, 0.67]$ and $x_2 \in [0.34, 0.41]$

B. $x \in [0.29, 1.29]$

C. $x_1 \in [-0.4, -0.35]$ and $x_2 \in [0.13, 0.33]$

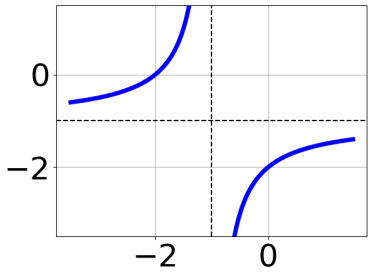
D. All solutions lead to invalid or complex values in the equation.

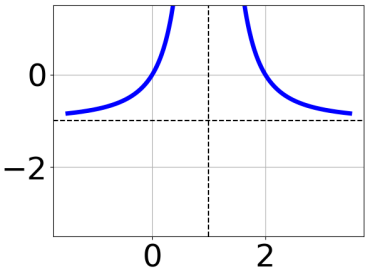
E. $x \in [-0.4, -0.35]$

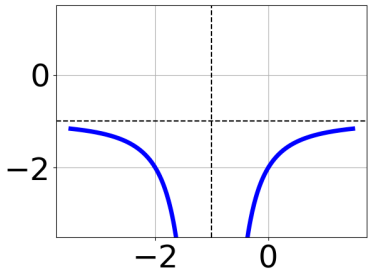
---

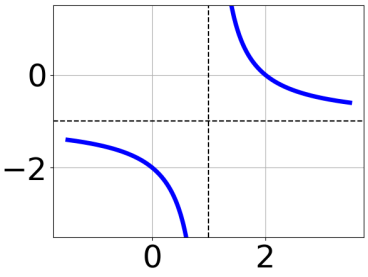
7. Choose the graph of the equation below.

$$f(x) = \frac{-1}{x-1} - 1$$

A. 

C. 

B. 

D. 

E. None of the above.

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8. Determine the domain of the function below.

$$f(x) = \frac{6}{12x^2 - 33x + 18}$$

A. All Real numbers except $x = a$, where $a \in [0.75, 1.75]$

B. All Real numbers.

C. All Real numbers except $x = a$, where $a \in [11, 14]$

D. All Real numbers except $x = a$ and $x = b$, where $a \in [11, 14]$ and $b \in [18, 20]$

E. All Real numbers except $x = a$ and $x = b$, where $a \in [0.75, 1.75]$ and $b \in [2, 4]$

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9. Determine the domain of the function below.

$$f(x) = \frac{6}{18x^2 - 6x - 12}$$

A. All Real numbers.

B. All Real numbers except $x = a,$ where $a \in [-1.67, 0.33]$

C. All Real numbers except $x = a$ and $x = b,$ where $a \in [-25, -21]$ and $b \in [5, 11]$

D. All Real numbers except $x = a,$ where $a \in [-25, -21]$

E. All Real numbers except $x = a$ and $x = b,$ where $a \in [-1.67, 0.33]$ and $b \in [0, 3]$

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10. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{6x}{7x+3} + \frac{-3x^2}{35x^2 - 27x - 18} = \frac{6}{5x-6}$$

A. $x \in [1.92, 3.52]$

B. $x_1 \in [-0.41, 0.06]$ and $x_2 \in [1.1, 6.1]$

C. $x_1 \in [-0.41, 0.06]$ and $x_2 \in [-6.43, 0.57]$

D. All solutions lead to invalid or complex values in the equation.

E. $x \in [0.93, 1.32]$
